

WHAT IS CLAIMED IS:

- ASD 1. An image forming system comprising:
- an optical sheet having a plurality of sheet members joined with the margins of adjoining sheet members met as a joint line so as to have one or more joint lines; and
- image projectors each producing an image or a part of an image and projecting the image or the part of an image to said optical sheet through a projection optical system, when the joint lines do not cross each other in said optical sheet, the number of image projectors being equal to or larger than the number of joint lines, and when the joint lines cross each other at a node in said optical sheet, the number of image projectors being equal to or larger than at least the number of nodes,
- wherein: said image projectors are positioned to cope with either of a first case where only one node exists within a field in said optical sheet corresponding to the image or the part of the image projected from an image projector, a second case where no node exists but only one joint line exists, or a third case where no joint line exists; in said first case, the optical axis of a projection optical system meets the node to fit the normal on the major surface of said optical sheet; in said second case, the optical axis of a projection optical system intersects the

joint line at a point and is contained in a plane defined with the normal on the major surface at the point and the joint line.

2. The image forming system according to Claim 1, wherein: the node is formed with convergence of four joint lines that are orthogonal to one another in the form of a cross or three joint lines that are orthogonal to one another in the form of a letter T.

3. The image forming system according to Claim 1, wherein the joint lines are parallel to one another.

4. An image forming system comprising:

an optical sheet having two sheet members joined with the margins of adjoining sheet members met as a joint line so as to have one joint line, and being substantially planar; and

a plurality of image projectors each producing a part of an image and projecting the part of an image to said optical sheet through a projection optical sheet,

wherein the optical axes of said plurality of image projectors are contained in planes defined with the joint line and the normal on the major surface of said optical sheet.

5. An image forming system comprising:

an optical sheet having three or more sheet members joined with the margins of adjoining sheet members met as a joint line so as to have two or more mutually parallel joint lines, and being substantially planar; and

a plurality of image projectors each producing part of an image and projecting the part of an image to said optical sheet through a projection optical system, one or more image projectors being opposed to each of the two or more joint lines,

wherein said image projectors are positioned so that the optical axes thereof will be contained in planes defined with the corresponding joint lines and the normal on the major surface of said optical sheet respectively.

6. An image forming system comprising:

an optical sheet having a plurality of sheet members joined with the margins of adjoining sheet members met as a joint line so as to have a plurality of joint lines and one or more nodes at each of which joint lines converge, and being substantially planar; and

one or more image projectors each producing part of an image and projecting the part of an image to said optical sheet through a projection optical system, one image

projector corresponding to each of the one or more nodes,
wherein an image projector corresponding to a node is positioned so that the optical axis of a projection optical system included in the image projector will meet the node while fitting the normal on the major surface of said optical sheet at the node.

7. The image forming system according to Claim 6, further comprising one or more image projectors corresponding to any points on the joint lines other than the nodes, wherein the image projectors corresponding to any points on the joint lines other than the nodes are positioned so that the optical axes of projection optical systems included in the image projectors will be contained in planes defined with the normal on the major surface of said optical sheet at the points on the joint lines, and the joint lines.

8. An image forming system comprising:

an optical sheet having a unique portion whose optical property is unique; and

an image projector for projecting an image to said optical sheet through a projection optical system,

wherein said image projector is positioned so that a solid angle formed with rays propagating from the projection

optical system to the unique portion will be minimized under a restriction on a predetermined positional relationship to said optical sheet.

9. An optical screen unit having a major surface on which an image is projected, comprising:

an optical plate having rigidity;

one or more optical sheets being arranged over the major surface of said optical plate and being flexible; and

a close contact means for bringing the major surface of said optical plate into close contact with the major surface of said optical sheet.

10. The optical screen unit according to Claim 9, wherein said optical plate is curved so that the major surface thereof facing said optical sheet will be a convex surface.

11. The optical screen unit according to Claim 10, wherein the convex surface is a cylindrical surface.

12. The optical screen unit according to Claim 10, wherein a maximum magnitude of projection of the convex surface attained with no stress applied to said optical plate ranges from 2 mm to 100 mm.

13. The optical screen unit according to Claim 9, further comprising a tensing means that applies tensile force, which is oriented at least along the major surface of said optical screen unit, to said optical sheet.

14. The optical screen unit according to Claim 10, wherein: said close contact means includes close contact means that applies tensile force, which is oriented along the major surface of said optical screen unit, to said optical sheet, and that applies pressing force, with which said optical sheet is pressed against the convex surface of said optical plate, to said optical sheet; and said optical sheet to which the tensile force is applied is pressed against the convex surface of said optical plate.

15. The optical screen unit according to Claim 14, further comprising a frame member that supports said optical plate, wherein said tensing means includes a resilient member having one end thereof supported on said frame member, having the other end thereof coupled to said optical sheet, and thus exerting tensile force.

16. The optical screen unit according to Claim 15, wherein a plurality of optical sheets are included and

tensed mutually independently by a plurality of resilient members, and tensile forces applied to the respective optical sheets are oriented in the same direction.

17. The optical screen unit according to Claim 15, wherein:

a plurality of optical sheets are included and tensed mutually independently by a plurality of resilient members;

tensile force applied to an optical sheet located farthest from said optical plate among said plurality of optical sheets has a component oriented to approach said optical plate;

tensile force applied to at least one optical sheet among said plurality of optical sheets except the farthest optical sheet has a component oriented to recede from said optical plate; and

resultant force of tensile forces applied to said plurality of optical sheets has a component oriented to approach said optical plate.

18. The optical screen unit according to Claim 15, wherein the convex surface of said optical plate is a cylindrical surface, and said resilient member tenses said optical sheet in the perimetric direction of the cylindrical surface of said optical plate.

19. The optical screen unit according to Claim 15, wherein said resilient member tenses said optical sheet in radial directions from the center of the major surface of said optical sheet.

20. The optical screen unit according to Claim 15, wherein said tensing means further includes a tensile force adjusting means that enables adjustment of tensile force exerted by said resilient member.

21. The optical screen unit according to Claim 9, wherein:

said optical sheet is constructed by joining a plurality of sheet members with the margins of adjoining sheet members met; and

at least one of one or more joint lines formed by joining the plurality of sheet members is positioned so that the optical axis of a projection optical system included in the image projector, which projects light on said optical screen unit, will intersect the one joint line.

22. The optical screen unit according to Claim 9, wherein said optical plate is a diffusing plate, a plurality of optical sheets are included, and at least two of the

optical sheets are realized with lenticular lens sheets.

23. The optical screen unit according to Claim 22, wherein the side of said diffusing plate to be brought into contact with said lenticular lens sheets is formed as a diffusing surface, and the side thereof opposite to the diffusing surface is processed to become anti-glare.

24. The optical screen unit according to Claim 22, wherein the side of said diffusing plate to be brought into contact with said lenticular lens sheets is formed as a diffusing surface, and the side thereof opposite to the diffusing surface is processed to become anti-reflection.